REMARKS

Claims 1 to 8 are currently pending.

Applicants thank the Examiner for acknowledging the claim for foreign priority and that all certified copies of the priorities have been received.

Applicants thank the Examiner for acknowledging receipt of the filed information disclosure statement, PTO 1449 and consideration of the references cited therein.

Reconsideration of the application is respectfully requested based on the preceding amendments and following remarks.

I. Rejection of Claims 1 to 5, 7 and 8 Under 35 U.S.C. § 102(b)

Claims 1 to 5, 7 and 8 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,730,832 issued to "Sato et al." .

To anticipate a claim under 35 U.S.C. § 102, a single prior art reference must identically disclose each and every claim feature. See Lindeman Machinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claim feature is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997).

Claim 1 relates to a tool head for attaching an electrical conductor on a contact surface of a substrate. Claim 1 recites a vibration exciter for generating linear ultrasonic vibrations, a bonding tool adapted to contact at least one of the contact surface and the conductor, the contacting applying a contact pressure to the conductor in a direction of the contact surface via the bonding tool, the conductor being adapted to be welded onto the contact surface with the aid of ultrasonic vibrations transmitted to at least one of the contact surface and the conductor, a vibration conductor absorbing the linear ultrasonic vibrations of the vibration exciter; and a converter situated between the vibration conductor and the bonding tool to convert the linear vibrations into radial vibrations such that the bonding tool is able to be incited to one of radial vibrations and rotary vibrations. Claim 1 has been amended, without prejudice herein, to recite that that bonding tool is able to be incited to one of radial vibrations and rotary vibrations about a tool axis of rotation. Support for the amendment to claim 1 is found, for example, on page 7, line 32 to page 8, line 1 and originally filed Figures 1 and 3.

Claim 7 relates to a method for attaching an electrical conductor on a contact surface of a substrate. Claim 7 recites the steps of generating linear ultrasonic vibrations; and converting the linear ultrasonic vibrations into rotary vibrations, and introducing the rotary vibrations into at least one of the contact surface and the conductor in order to produce a permanent bond between the contact surface and the conductor. Claim 7 has been amended, without prejudice, to recite the method step features that the rotary vibrations are incited about an axis of rotation of rotation of a bonding tool. Support for the amendment to claim 7 is found, for example, on page 7, line 32 to page 8, line 1 and originally filed Figures 1 and 3.

The amendments to both independent claims 1 and 7 recite that the bonding tool is positioned in such a way that the bonding tool executes a radial or torsional vibration (for example about its axis of rotation). This axis of rotation is illustrated in Figure 1 (reference numeral 16). Furthermore, the bonding tool (reference numeral 18) is connected to the converter 12 and oscillates about the axis of rotation (16).

It is respectfully submitted that the Sato et al. reference does not identically disclose (or even suggest) the claim features of a bonding tool that converts the linear vibrations into radial vibrations such that the bonding tool is able to be incited to one of radial vibrations and rotary vibrations about a tool axis of rotation, as in amended claim 1, or the method step feature of producing rotary vibrations that are incited about an axis of rotation of rotation about a bonding tool as in claim 7. Sato et al. provide an ultrasonic vibration welding machine that has a transducer 1, a resonator 2 and a bonding working portion 3d. The bonding working portion 3d component contacts the bonding location when initially operated. The working portion 3d, however, does not execute a rotary motion. Contrary the to the requirements of claims 1 and 7, Sato et al. provide a bonding working portion 3d that has an oscillation in a straight direction and in a direction perpendicular to the contact surface Wa (see col. 3, lines 34 to 36 and Figure 3). All oscillatory motions are executed linearly, wherein the oscillation in the straight direction corresponds to the linear oscillation direction of the transducer, and the second oscillation direction extends perpendicular thereto. A conversion of the originally linear oscillation into a rotary motion is not provided. Applicants furthermore submit that the combination of two directions of oscillation does not create a rotary oscillation of the bonding working portion about its axis. Accordingly, claims 1 and 7, as presented, are allowable.

Claims 2 to 6 depend from claim 1 and therefore include all of the features of amended claim 1. Applicants respectfully submit that claims 2 to 6 are patentable for at least the reasons provided above in relation to claim 1. Claim 8 depends from claim 7 and therefore includes all of the features of amended claim 7. Applicants respectfully submit that claim 8 is patentable for at least the reasons provided above in relation to claim 7.

II. Rejection of Claims 1 and 6 to 8 Under 35 U.S.C. § 102(b)

Claims 1 and 6 to 8 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,266,710 issued to "Bilane et al.".

The features of independent claims 1 and 7, as presented, are described above and are applicable to this rejection.

The Bilane et al. reference does not identically disclose (or even suggest) the claim feature of a bonding tool that converts the linear vibrations into radial vibrations such that the bonding tool is able to be incited to one of radial vibrations and rotary vibrations about its axis of rotation, as in amended claim 1, or that the rotary vibrations are incited about an axis of rotation of rotation about a bonding tool as in claim 7. The Bilane et al. reference allegedly relates to a bonding method in which the bonding tool is constantly controlled and newly adjusted in its height relative to the bonding location. At no stage in the Bilane et al. reference process is it intended, disclosed, or suggested that the bonding tool perform a rotary motion. Instead, the desired vertical position of the bonding tool is achieved by the position of an encoder 78. There is no disclosure or suggestion that the bonding tool rotates about its own axis and consequently the Bilane et al. reference does not anticipate the features of claims 1 and 7. Therefore, applicants respectfully submit that the Bilane et al. reference does not disclose or suggest the features of claims 1 and 7.

Claim 6 depends from claim 1 and therefore includes all of the features of amended claim 1. Applicants respectfully submit that claim 6 is patentable for at least the reasons provided above in relation to amended claim 1. Claim 8 depends from claim 7 and therefore includes all of the features of amended claim 7. Applicants respectfully submit that claim 8 is patentable for at least the reasons provided above in relation to claim 7.

III. Rejection of Claims 1 to 3 Under 35 U.S.C. § 102(e)

Claims 1 to 3 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,491,785 issued to "Sato et al. '785".

The features of independent claim 1, as presented, are described above and are applicable to this rejection.

The Sato et al. '785 reference does not anticipate claim 1. The Sato et al. '785 reference provides a mount table that is rotatable about an angle θ. Applicants respectfully submit, however, that the Sato et al. '785 reference does not disclose, or even relate, to a bonding tool. As the Sato et al. '785 reference fails to disclose or suggest such a bonding tool, the reference fails to disclose the features of amended claim 1.

Claims 2 and 3 depend from claim 1 and therefore include all of the features of amended claim 1. Applicants respectfully submit that claims 2 and 3 are patentable for at least the reasons provided above in relation to amended claim 1.

CONCLUSION

In light of the foregoing, claims 1 to 8 are allowable. It is therefore respectfully requested that the rejections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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